AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of claims:

1-24. (Cancelled)

25. (Currently amended) A method of preparing an implant for connective tissue substitution in an animal, said method comprising the steps of:

(a) providing a pair of bone anchors joined at their proximal ends by at least one support filament, said bone anchors having been joined with said support filament *ex vivo*; and

(b) incubating said pair of bone anchors in a solution containing matrix forming molecules for a period time sufficient for the formation of at least one matrix layer around said support filament;

wherein said matrix layer is of sufficient thickness to allow for colonization by cells, and wherein said ~~matrix layer~~ implant is dehydrated or lyophilized prior to implantation.

26. (Original) The method according to claim 25, wherein said matrix is further colonized by a cell.

27. (Original) The method according to claim 25, wherein said implant is chemically treated prior to implantation.

28. (Original) The method according to claim 25, wherein said connective tissue is selected from the group consisting of a tendon, a cartilage, a disk, a meniscus, a muscle, a tooth, a hair, a joint, and a ligament, or a combination thereof.

29. (Original) The method according to claim 25, wherein said animal is a human.

30. (Original) The method according to claim 25, wherein said animal is a non-human mammal.

31. (Previously presented) The method according to claim 25, wherein said bone anchor is selected from the group consisting of a bone portion, and a piece composed of (a) a natural biocompatible porous material; (b) a synthetic biocompatible porous material or (c) both (a) and (b).

32. (Original) The method according to claim 25, wherein said matrix layer is a collagen gel layer.

33. (Currently amended) The method according to claim 25, wherein said matrix layer is composed ~~of~~ of a compound selected from the group consisting of chitosan, glycosaminoglycan, chitin, ubiquitin, elastin, polyethylene glycol, polyethylene oxide, vimentin, and fibronectin, or derivatives or combinations thereof.

34. (Currently amended) The method according to claim 25, wherein said filament is selected from the group consisting of a resorbable thread, a natural fiber, and a filament composed of at least one of ~~protein~~ a protein, ~~lipid~~ a lipid, ~~biocompatible~~ a biocompatible molecule or ~~synthetic~~ a synthetic component.

35. (Original) The method according to claim 25, wherein said matrix layer further comprises a cell.

36. (Original) The method according to claim 25 or 26, wherein said cell is a heterologous cell.

37. (Original) The method according to claim 25 or 26, wherein said cell is selected from the group consisting of a fibroblast, a myoblast, an osteoblast, a mesenchymal cell, an endothelial cell, an immune cell, a chondrocyte, and a combination thereof.

38. (Currently amended) The method according to claim 25, wherein said matrix further comprises a pharmaceutically effective amount ~~of~~ of a biologically active molecule selected from the group consisting of a drug, a growth factor, a cytokine, an antibiotic, a hormone, and a combination thereof.

39. (Currently amended) The method according to claim 25, wherein said matrix layer is an inner matrix layer is coated by at least one supplementary matrix coating layer.

40. (Original) The method according to claim 39, wherein at least one of said inner matrix layer or filament is dehydrated or lyophilized prior coating by said supplementary matrix coating layer.

41. (Original) The method according to claim 39, wherein said supplementary matrix coating layer is dehydrated or lyophilized before being coated by another supplementary matrix coating layer.

42. (Original) The method according to claim 39 or 41, wherein said supplementary matrix coating layer or another supplementary matrix coating layer further comprises a cell.

43. (Currently amended) The method according to ~~claim 25~~ claim 42, wherein said cell is an autologous cell.

44. (Currently amended) The method according to ~~claim 25~~ claim 42, wherein said cell is a heterologous cell.

45. (Previously presented) The method according to claim 32, wherein said collagen is a recombinant collagen.

46. (Previously presented) The method according to claim 32, wherein said collagen is selected from the group consisting of types I, II and III collagen.

47. (Previously presented) The method according to claim 32, wherein the collagen is from an animal tissue source.

48. (Previously presented) The method according to claim 47, wherein said animal tissue is selected from the group consisting of tendon, skin, cornea, bone, cartilage, vertebral disc, cardiovascular tissue and placenta.

49. (Previously presented) The method according to claim 25, wherein said implant is a ligament substitute.

50. (Currently amended) The method according to claim 49, wherein said ligament substitute is selected from the group consisting of an anterior cruciate ligament substitute and a periodontal ligament substitute.

51. (Previously presented) The method according to claim 25, wherein said providing step (a) comprises joining a pair of bone anchors at their proximal ends with at least one support filament, wherein said joining is performed *ex vivo*.

52. (Previously presented) The method according to claim 25, wherein said incubation is performed under conditions in which are induced waves, vibrations, cyclic tractions, and/or static tractions of said implant.

53. (New) The method according to claim 35, wherein said cell is an autologous cell.

54. (New) The method according to claim 35, wherein said cell is a heterologous cell.